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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/867,736

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Chinping Q. Yang

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06/02/2006

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EXAMINER

CHAU, COREY P

ART UNIT

PAPER NUMBER

2615

DATE MAILED: 06/02/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/867,736

Applicant(s)

YANG ET AL.

Examiner

Corey P. Chau

Art Unit

2615

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 March 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 May 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|--|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input checked="" type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 3/13/2006 has been entered.

Drawings

2. The drawings are objected to under 37 CFR 1.83(a) because they fail to show in Fig. 4 what step is after bass management step 46. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing in way that **does not include any new matter**. MPEP § 608.02(d). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the

Art Unit: 2615

remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

3. The disclosure is objected to because of the following informalities: Fig. 4 does not disclose what step is after bass management step 46.

Appropriate correction is required, which **does not include any new matter**.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 1-29 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Claim 1, recites "matrix mixing an audio signal, then decoding a surround channel of the matrix mixed audio signal". However, the specification does not clearly disclose how the processing of "decoding a surround channel of the matrix mixed audio

Art Unit: 2615

signal" will be performed after the matrix mixing the audio signal further comprises applying a downmixing algorithm to the audio signal (i.e. if downmixing does not produce a surround channel) or after the matrix mixing the audio signal further comprises extracting at least four channels from the matrix mixed audio signal.

Furthermore, the specification does not clearly disclose the purpose and result of "decoding a surround channel of the matrix mixed audio signal", since the claims does not disclose how and/or why the signal produced from "decoding a surround channel of the matrix mixed audio signal" will be used. Claims 10, 17, and 28-29 are rejected for the same reasons stated above. Claims 2-9, 11-16, and 18-27 are rejected for being dependent on rejected base claims 1, 10, 17, and 28-29.

6. Claims rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claim 1 recites "**outputting** a low frequency input channel of the matrix mixed audio signal to a low frequency effect compatible speaker", which was amended based on the suggestion of the Examiner from the Applicant's representative explanation of the invention during an interview, but upon further review, the original specification does describe "**outputting** a low frequency input channel of the matrix mixed audio signal to a low frequency effect compatible speaker" in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The original specification

Art Unit: 2615

discloses on page 18, "The presence of any low frequency signals is detected at block 42. If a woofer or comparable low frequency speaker is included in the amplifier setup, then that portion of the signal is **distributed** to the LFE." which is not equivalent to "**outputting** a low frequency input channel of the matrix mixed audio signal to a low frequency effect compatible speaker", therefore the original specification does describe "**outputting** a low frequency input channel of the matrix mixed audio signal to a low frequency effect compatible speaker" in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention (It would be greatly appreciated if Applicant can point out where in the specification is "**outputting** a low frequency input channel of the matrix mixed audio signal to a low frequency effect compatible speaker" is disclosed).

7. Claim 29 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Claim 29 recites "selecting from the group consisting of", which is a Markush claim. Markush claims must be provided with support in the disclosure for each member of the Markush group. However, in the instance case the specification does not have support in the disclosure for each member of the Markush group because the specification for example does not disclose the audio post processing method comprising only "a) matrix mixing an audio signal and decoding a surround channel of the matrix mixed audio signal". The specification discloses for example, Fig. 4 that more steps are performed

Art Unit: 2615

after “a) matrix mixing an audio signal and decoding a surround channel of the matrix mixed audio signal”. Therefore, the Markush group is nonenabling. Please address and correct the other Markush group that has similar problems.

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claims 1-29 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

10. Regarding Claim 1, it is unclear to the Examiner the need for “decoding a surround channel of the matrix mixed audio signal” because the surround sound is decoded by the matrix mix process, therefore what is the purpose for “decoding a surround channel of the matrix mixed audio signal” (“decoding” may be not be the best term to used to describe the invention). Furthermore, the specification discloses “then the surround portions of the audio signal are parsed to surround speakers”, which is not equivalent to “decoding a surround channel of the matrix mixed audio signal”. Claims 10, 17, and 28-29 are rejected for the same reasons stated above. Claims 2-9, 11-16, and 18-27 are rejected for being dependent on rejected base claims 1, 10, 17, and 28-29. In addition, it is unclear to the Examiner what step in Fig. 4 is “decoding a surround channel of the matrix mixed audio signal” performed.

11. Claim 12, recite “The audio post processing method according to claim 10, wherein matrix mixing the audio further comprises extracting at least four channels

from the matrix mixed audio signal". However it is unclear to the Examiner how "matrix mixing the audio further comprises extracting at least four channels **from the matrix mixed audio signal**", when the matrix mixing is suppose to produce the matrix mixed audio signal.

Claim Rejections - 35 USC § 101

12. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

13. Claims 1-3, 10-12, 15, and 29 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

14. With regards to Claims 1-3, 10-12, 15, and 29 Section 101 of title 35, United States Code, provides:

Whoever invents or discovers any new and **useful process**, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

A claim that requires one or more acts to be performed defines a process.

However, not all processes are statutory under 35 U.S.C. § 101. To be statutory, a claimed process must either: (A) result in a physical transformation for which a practical application is either disclosed in the specification or would have been known to a skilled artisan, or (B) **be limited to a practical application which produces a useful, tangible, and concrete result.**

15. Claim 1 disclose “An **audio post processing method** comprising the following sequenced **processes**: matrix mixing an audio signal, then decoding a surround channel of the matrix mixed audio signal, then outputting a low frequency input channel of the matrix mixed audio signal to a low frequency effect compatible speaker, transmitting an ambient noise containing channel of the matrix mixed audio signal to a speaker system operable to create a three dimensional effect, then center channel equalizing the matrix mixed audio signal”, which may show “practical application”, such as “transmitting an ambient noise containing channel of the matrix mixed audio signal to a speaker system”, but fail to produce **tangible and concrete result** such as “to create a three dimensional effect” because of the alternative “**operable**” language, therefore is nonstatutory. One may not patent a process that comprises every “substantial practical application” of an abstract idea, because such a patent “in practical effect would be a patent on the [abstract idea] itself”.

16. Claims 2 and 3 discloses “The audio post processing method according to claim 1, further comprising matrix mixing the signal by applying a downmixing algorithm” and “The audio post processing method according to claim 1, further comprising matrix mixing the signal by applying a Prologic algorithm” which is not nonstatutory because the claim failed to provide practical application that produces **concrete, tangible and useful result**. One may not patent a process that comprises every “substantial practical application” of an abstract idea, because such a patent “in practical effect would be a patent on the [abstract idea] itself”.

Art Unit: 2615

17. Claim 10, discloses "An **audio post processing method** comprising the following ordered **processes**: matrix mixing an audio signal, then decoding a surround channel of the matrix mixed audio signal, then outputting low frequency input channels to a bass compatible speaker, then applying a headphone algorithm to the matrix mixed audio signal" which is not nonstatutory because the claim failed to provide practical application that produces **concrete, tangible and useful result**. One may not patent a process that comprises every "substantial practical application" of an abstract idea, because such a patent "in practical effect would be a patent on the [abstract idea] itself".
18. Claims 11 and 12 discloses "The audio post processing method according to claim 10, further comprising matrix mixing the signal by applying a downmixing algorithm" and "The audio post processing method according to claim 10, further comprising matrix mixing the signal by applying a Prologic algorithm", which is not nonstatutory because the claim failed to provide practical application that produces **concrete, tangible and useful result**. One may not patent a process that comprises every "substantial practical application" of an abstract idea, because such a patent "in practical effect would be a patent on the [abstract idea] itself".
19. Claim 15 discloses "The audio post processing method according to claim 10, further comprising transmitting ambient noise to the headphone speaker", which is not nonstatutory because the claim failed to provide practical application that produces **concrete, tangible and useful result**. One may not patent a process that comprises every "substantial practical application" of an abstract idea, because such a patent "in practical effect would be a patent on the [abstract idea] itself".

Art Unit: 2615

20. The many of the sequences discloses in Claim 29, for example, "a) matrix mixing an audio signal and decoding a surround channel of the signal"; "b) matrix mixing the audio signal, decoding the surround channel, and outputting a low frequency input channel of the matrix mixed audio signal to a low frequency effect compatible speaker"; and "c) matrix mixing the audio signal and outputting the low frequency input channel of the matrix mixed audio signal to the low frequency effect compatible speaker" are not nonstatutory the sequences failed to provide practical application that produces **concrete, tangible and useful result**. Please address and correct other sequences that are similar that does not meet the statutory requirement. Furthermore, other sequences of claims 29, for example, "d) matrix mixing the audio signal, decoding the surround channel, outputting the low frequency input channel of the matrix mixed audio signal to the low frequency effect compatible speaker, and transmitting an ambient noise containing channel of the matrix mixed audio signal to a speaker system operable to create a three dimensional effect" may show "practical application", such as "transmitting an ambient noise containing channel of the matrix mixed audio signal to a speaker system", but fail to produce **tangible and concrete result** such as "to create a three dimensional effect" because of the alternative "**operable**" language, therefore is nonstatutory. Please address and correct other sequences that are similar that does not meet the statutory requirement. One may not patent a process that comprises every "substantial practical application" of an abstract idea, because such a patent "in practical effect would be a patent on the [abstract idea] itself".

Response to Arguments

21. Applicant's arguments with respect to claims 1-29 have been considered but are moot in view of the new ground(s) of rejection.


Conclusion

22. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Corey P. Chau whose telephone number is (571)272-7514. The examiner can normally be reached on Monday - Friday 9:00 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chin Vivian can be reached on (571)272-7848. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

May 30, 2006


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Application/Control Number: 09/867,736

Page 12

Art Unit: 2615

CPC